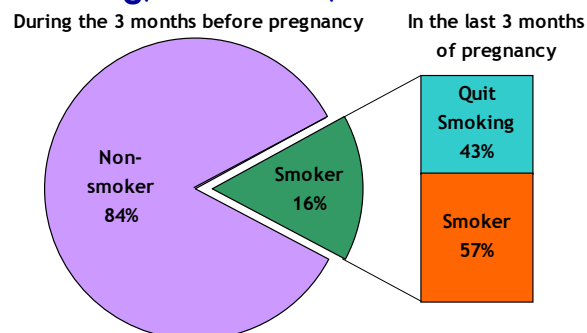


Cigarette smoking during pregnancy in Massachusetts, 2007

Cigarette smoking during pregnancy in Massachusetts (MA)

- Maternal cigarette smoking during pregnancy is a known risk factor for low birth weight and is associated with preterm delivery.^{1,2}
- According to PRAMS data, 16% of MA residents who gave birth in 2007 reported that they smoked cigarettes during the 3 months before the pregnancy. Among those women who smoked cigarettes during the 3 months before the pregnancy, 43% quit smoking before the last 3 months of pregnancy (these women represented 7% of all MA residents who gave birth in 2007) (Figure 1).
- About 9% of MA residents who gave birth in 2007 reported that they smoked cigarettes in the last 3 months of pregnancy.

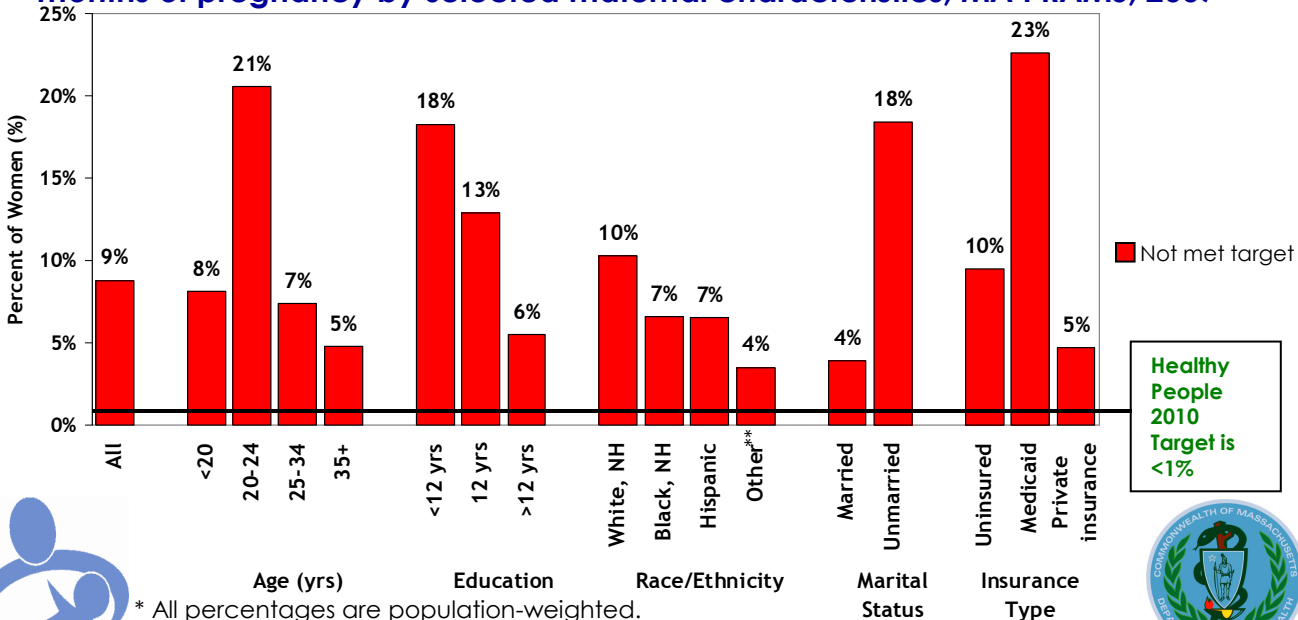
Figure 1. Prevalence of cigarette smoking, MA PRAMS, 2007



Smoking counseling during pregnancy

- According to PRAMS data, 72% of Massachusetts residents giving birth in 2007 reported that they were told by a health care worker about how smoking during pregnancy could affect the baby.
- Among women who smoked during the 3 months before pregnancy, 9% reported that they did **not** receive any information about smoking during their prenatal care visits.

Figure 2. Percent* of women who reported smoking cigarettes in the last 3 months of pregnancy by selected maternal characteristics, MA PRAMS, 2007



* All percentages are population-weighted.

** Includes Asian/Pacific Islander, American Indian, and other race/ethnicity.



Table 1. Comparing the percents[†] of Massachusetts women who smoked cigarettes in the last 3 months of pregnancy across various factors, MA PRAMS, 2007

	Adjusted Ratio of Percents [†]	95% Confidence Interval
Compared to women between 25 and 34 yrs old		
<20 yrs	0.9	0.8 – 1.0*
20-24 yrs	1.1	1.0 – 1.1
35+ yrs	1.0	1.0 – 1.0
Compared to women with more than 12 yrs of education		
<12 yrs	1.1	1.0 – 1.2
12 yrs	1.0	1.0 – 1.1
Compared to Hispanic women		
White, non-Hispanic	1.2	1.1 – 1.2*
Black, non-Hispanic	1.0	1.0 – 1.1
Other, non-Hispanic**	1.1	1.0 – 1.1*
Compared to married women		
Unmarried	1.1	1.1 – 1.2*
Compared to women privately insured before pregnancy		
Medicaid	1.1	1.0 – 1.2*
Uninsured	1.0	0.9 – 1.1

[†] These ratios are "adjusted" since we look at the effects of all other factors at the same time. Logistic regression was used to hold all factors included constant.

* Statistically different from the comparison group ($\alpha=0.05$)

** Includes Asian/Pacific Islander, American Indian, and other race/ethnicity.

Which groups of women are most likely to smoke cigarettes in the last 3 months of pregnancy?

When adjusting for age, education, race/ethnicity, marital status, and insurance status at the same time, the following groups of women were most likely to smoke in the last 3 months of pregnancy:

- White, non-Hispanic women;
- Other, non-Hispanic women;
- Unmarried women; and
- Women enrolled in Medicaid.

What do adjusted ratios of percents tell me?

The adjusted ratio of percents lets you know how likely one group of women was to smoke cigarettes in the last 3 months of pregnancy compared to a different group when other factors were also accounted for at the same time. The comparison group is the group of women indicated in the gray box in Table 1. Significant differences between groups are marked with an asterisk (*); otherwise, the two groups are similar.

How do I interpret the adjusted ratio of percents?

Example: Compared to Hispanic women, White, non-Hispanic women was 1.2 times as likely to smoke cigarettes in the last 3 months of pregnancy while adjusting for age, education, race/ethnicity, marital status, and insurance status.



Conclusions

- Not all women who smoked before pregnancy were told by a health care worker during a prenatal care visit about how smoking during pregnancy could affect the baby.
- Close to 60% of women who smoked three months before pregnancy continued to smoke during pregnancy.
- Massachusetts did not achieve the *Healthy People 2010* target that <1% of women smoke during pregnancy.
- Women between 20 and 24 years old, women with <12 years of education, White, non-Hispanic women, unmarried women, and women enrolled in Medicaid Program reported the highest rates of smoking during pregnancy.

Recommendations/Resources

- Screen all women and discuss the effects of smoking on the health of the mother and fetus at the first prenatal visit.
- Increase access to and use of smoking cessation interventions.
- Providers looking for resources to help patients quit smoking, please visit: <http://www.makesmokinghistory.org/quitworks/>.
- Contact Massachusetts Smokers' Helpline at 1-800-Try-To-STOP (1-800-879-8678 or TTY 1-800-833-1477) for resources that can help you quit smoking. Or visit <http://www.makesmokinghistory.org/>.

Study Limitations

- PRAMS is a self-report survey and nondisclosure behaviors (e.g. smoking) perceived as socially undesirable might result in underestimate of these behaviors.
- While PRAMS is weighted to reflect the population of MA as a whole, 30% of women did not respond to this survey and we have no way of knowing how they might have answered the questions.
- PRAMS is only available in English and Spanish in MA, and may not be accessible to mothers who speak other languages.

References

1. Berkowitz G, Papiernik E. Epidemiology of preterm birth. *Epidemiol Rev* 1993;15:414--43.
2. Dejmek J, Solanský I, Podrazilová K, Srám RJ. The exposure of nonsmoking and smoking mothers to environmental tobacco smoke during different gestational phases and fetal growth. *Environ Health Perspect* 2002;110:601--6.

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ABOUT MASSACHUSETTS PRAMS

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The Massachusetts Pregnancy Risk Assessment Monitoring System (PRAMS) is a collaborative surveillance project between the CDC and Massachusetts Department of Public Health. PRAMS collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. The goal of the PRAMS project is to improve the health of mothers and infants by reducing adverse outcomes such as low birth weight, infant mortality and morbidity, and maternal morbidity.

The PRAMS survey is distributed throughout the year, by mail or phone, to MA residents who delivered a live infant in Massachusetts. Annually, approximately 2,400 women are randomly selected to participate from a frame of eligible birth certificates. Minority women are over sampled to ensure adequate representation. Final results are weighted to represent the entire cohort of MA resident women who delivered a live infant during the previous calendar year.

